

## REMARKS

In the Final Office Action of December 17, 2009, claims 1, 2 and 4 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over JP-04120900 (“Nonaka”) in view of U.S. Patent No. 2,716,462 (“Brennan ‘462”). In addition, claims 5-10 were rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Nonaka in view of Brennan ‘462, U.S. Patent No. 4,668,588 (“Kishima”), U.S. Patent No. 2,408,038 (“Brennan ‘038”) and/or U.S. Patent No. 3,093,207 (“Bozak”).

In response, Applicants respectfully assert that the independent claim 1 is not obvious over Nonaka in view of Brennan ‘462, as explained below. In view of the following remarks, Applicants respectfully request the allowance of pending claims 1, 2 and 4-10.

### A. Patentability of Independent Claim 1

The independent claim 1 was rejected under 35 U.S.C. 103(a) as allegedly being obvious over Nonaka in view of Brennan ‘462. However, the Examiner has failed to establish a *prima facie* case of obviousness for the independent claim 1. As such, Applicants respectfully request that the independent claim 1 be allowed.

In order to establish a *prima facie* rejection of a claim under 35 U.S.C. 103, the Office Action must present a clear articulation of the reason why the claimed invention would have been obvious. MPEP 2142 (citing *KSR International Co. v. Teleflex Inc.*, 550 U.S. \_\_ (2007)). The analysis must be made explicit. *Id.* Additionally, rejections based on obviousness cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.* Applicants respectfully assert that there is no rational underpinning to support the legal conclusion of obviousness in the reasoning provided in the Office Action.

The Office Action on page 3 admits that “Nonaka does not teach having a

creased area that surrounds a central area of the diaphragm with different amounts of polymer deposited at these two parts of the speaker diaphragm.” The Office Action then alleges that Brennan ‘462 teaches these features and that “it would have been obvious to a person of ordinary skill in the art at the time of invention to use a diaphragm with a central area surrounded by a creased area as taught by the ‘462 patent in the process of Nonaka in order to improve the flexibility of the diaphragm” and that “it would have been obvious to a person of ordinary skill in the art at the time of invention to then provide these separate areas with different amounts of liquid plastic material reinforcement in order to be able to produce the required strength in the creased area and the required flexibility in the center area in order to have an effective speaker (claim 1).” Applicants respectfully disagree.

Nonaka teaches coating the surface of a diaphragm with polyphosphazene resin to “improve abrasion resistance, weather resistance and surface hardness,” as explained in the abstract. In contrast, Brennan ‘462 teaches using a number of radially extending filaments 13 formed of plastic material to reinforce a diaphragm, as shown in Fig. 1 and described in column 2, lines 3-5, and using coated areas 19 between a strip 18 and the rim of the diaphragm to stiffen the concave body portion of the diaphragm, as shown in Fig. 1 and described in column 3, lines 20-31. Thus, Brennan ‘462 teaches depositing plastic material on different areas of the diaphragm, and thus, leaving other areas of the diaphragm exposed. Consequently, if the teachings of Brennan ‘462 are applied to the diaphragm of Nonaka, the polyphosphazene resin described in Nonaka would be applied to different areas of the diaphragm as taught by Brennan ‘462. However, there is no rational underpinning to modify the diaphragm of Nonaka in such a manner.

As described in Nonaka, the surface of a diaphragm is coated with the polyphosphazene resin to improve (1) abrasion resistance, (2) weather resistance and (3) surface hardness. However, if the polyphosphazene resin is applied to only certain areas of the diaphragm as taught by Brennan ‘462, the resulting diaphragm would have exposed areas that are not improved with respect to (1) abrasion resistance, (2) weather resistance and (3) surface hardness. Thus, it is not rational or reasonable to apply the polyphosphazene resin to only certain areas of the diaphragm as taught by Brennan ‘462. Thus, the Examiner has failed to establish a *prima facie* case of

obviousness for the independent claim 1.

In addition, the proposed modification would render the diaphragm of Nonaka unsatisfactory for its intended purpose. If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). In the case at hand, the intended purpose of the prior art invention of Nonaka is to provide a diaphragm for a loudspeaker with improved (1) abrasion resistance, (2) weather resistance and (3) surface hardness. However, if the diaphragm of Nonaka is modified using the teachings of Brennan '462 as suggested in the Office Action, then the resulting diaphragm would have exposed areas that are not coated with the polyphosphazene resin. Thus, the exposed areas of the diaphragm would not have improved resistance to abrasion and weather or have improved surface hardness as the areas of the diaphragm coated with the polyphosphazene resin. Therefore, there is no suggestion or motivation to combine the teachings of Nonaka and Brennan '462 in the manner set forth in the Office Action, which further supports the conclusion that the Examiner has failed to establish a *prima facie* case of obviousness for the independent claim 1. As such, Applicants respectfully request that the independent claim 1 be allowed.

Applicants note herein that Brennan '038 teaches forming an acoustic diaphragm by spraying binding material and fibrous material onto a structure or form that conforms to the shape of the diaphragm being made. The structure or form described in Brennan '038 is essentially a mold to make the diaphragm, which is removed from the molding structure or form. Thus, the structure or form is not part of the diaphragm. Consequently, the teachings of Brennan '038 are not applicable to any process that involves applying plastic material onto a diaphragm.

#### B. Patentability of Dependent Claims 2 and 4-10

Each of the dependent claims 2 and 4-10 depends on the independent claim 1. As such, these dependent claims include all the limitations of the independent claim 1. Therefore, Applicants submit that these dependent claims are allowable for the same reasons as the independent claim 1. Furthermore, these dependent claims may be

allowable for additional reasons.

Applicants respectfully request reconsideration of the claims in view of the remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,  
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